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Quiz 10

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. pg.192#3d *(4 marks)* Sketch the graph of the function $y = 5\cos(\pi\theta)$ on the interval $-2 \le x \le 2$.

amplitude $= |5| = 5$

period $= \dfrac{2\pi}{\pi} = 2$
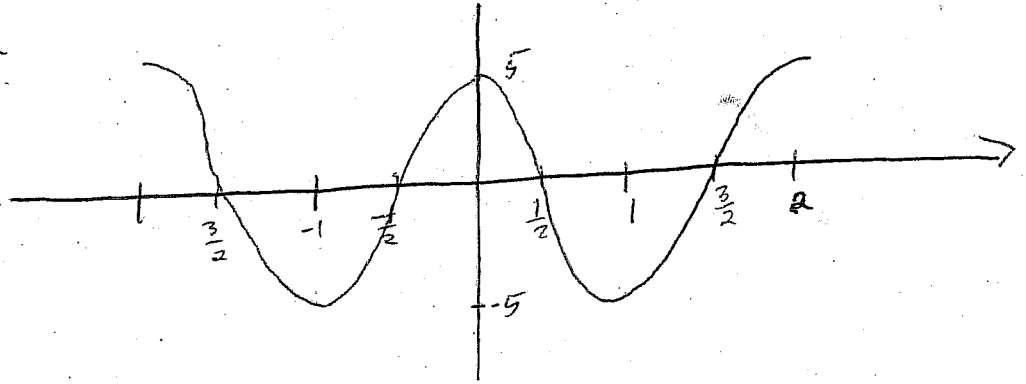
Question 2. pg.198#10 *(3 marks)* Prove(Verify) the following identity:

$$\sin x(\csc x - \sin x) = \cos^2 x$$

$$\sin x\left(\frac{1}{\sin x} - \sin x\right) = \cos^2 x$$

$$\frac{\sin x}{\sin x} - \sin^2 x = \cos^2 x$$

$$1 - \sin^2 x = \cos^2 x$$

$$\cos^2 x = \cos^2 x$$

Question 3. pg.203#3c *(3 marks)* Solve for θ giving the exact solution, $0° \le \theta < 360°$.

$$\sqrt{3}\sec\theta - 2 = 0$$

$$\sec\theta = \frac{2}{\sqrt{3}} = \frac{hyp}{adj}$$

$$\theta = 30°, \ 330°$$